



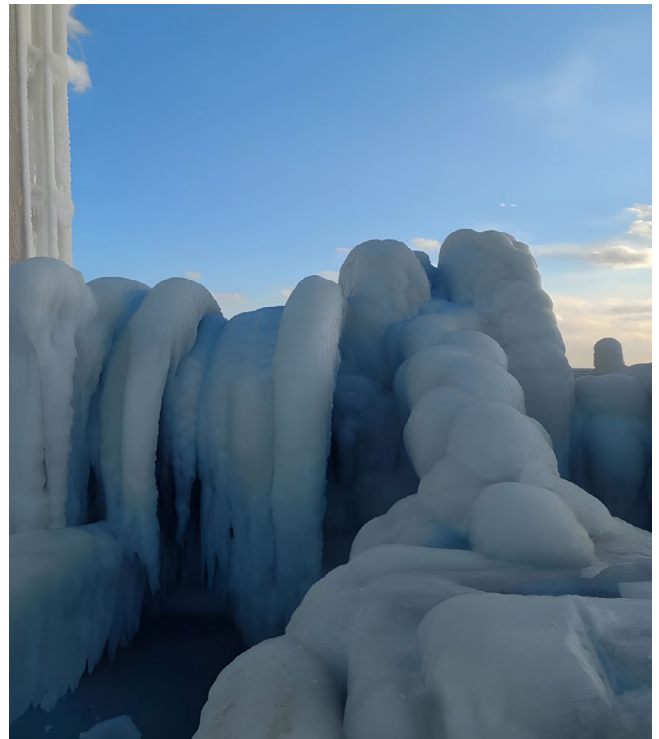
LOSS PREVENTION UPDATE

PREPARING FOR ICE ACCRETION IN WINTER CONDITIONS

Sudden ice accretion can quickly cover a ship's superstructures, weather decks, and deck machinery, catching crews off guard. This buildup of ice makes hatch covers and machinery unusable until it's cleared away. Since de-icing is a tedious and time-consuming process, ships must be equipped to handle the task efficiently. Reducing ice accumulation and preparing vessels for de-icing are critical steps to ensure safe and effective operations.

TYPES OF ICE ACCRETION AND RISKS

FRESHWATER ICE ACCRETION – This type of ice can form from fog, drizzle, rain or snow. Freshwater ice accumulation may be smaller in quantity compared to seawater ice accretion; however, it can cause radar, aerial and insulator failures. This icing also creates hazards for personnel on deck, both from slip potential and ice falling from accumulations on rigging and stays.



SEAWATER ICE ACCRETION – Seawater icing occurs when cold sea spray comes into contact with exposed surfaces, and the air temperature is below freezing. Seawater ice accretion is influenced by two main factors: environmental conditions and ship characteristics. Environmental conditions, such as wind speeds above Beaufort Wind Scale 5, ambient air temperatures below -2°C, and seawater temperatures below 4°C, are ideal for seawater ice accretion. Ship characteristics, such as speed, heading relative to wind, waves, and swell, exposed surface area, length, and freeboard, all contribute to ice accretion.

Seawater ice accretion can impact the stability of the ship especially small ships. Severe ice accretion can cause commercial losses due to time lost or missed berthing slots, as cargo gear and mooring equipment may become inoperable.



AVOIDING OR MINIMISING ICE ACCRETION

It is very difficult to forecast sudden ice accretion and warnings may not be received in time. To navigate safely in high latitudes when ice accretion is likely due to favourable environmental conditions, steer towards warmer areas or seek shelter as soon as possible. If that's not an option, reduce speed to minimise sea spray, or, if necessary, run before the wind at a speed just enough to maintain control of the ship. Keep radar scanners running continuously and ensure whistle and horn heaters are turned on.

The ship should be equipped with wooden mallets, axes, shovels, and de-icing salts for manual de-icing efforts. Crew members need to be informed about the risks of slips and trips that can occur in icy conditions. When performing manual de-icing, it's crucial to avoid damaging hydraulic pipes or small-diameter pipelines. If available, steam and hot water sprays can be employed. Additionally, washing with plenty of seawater can be an effective method for removing ice, provided the seawater temperature exceeds 10°C.

According to SOLAS Chapter V, Regulation 31, any ship encountering sub-freezing temperatures combined with gale-force winds that lead to severe ice accumulation on superstructures is required to communicate danger messages using all available means. These messages must be directed to nearby vessels and competent authorities, following the format specified in Regulation 32.

The Club has published an article titled [Operating Ships in Icy Conditions: Guidance to Prepare Ships, Crew, and Cargo](#), which serves as a valuable resource for readying ships for navigation in icy environments.

FURTHER INFORMATION

For further information, please do not hesitate to email lossprevention@tindallriley.com

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